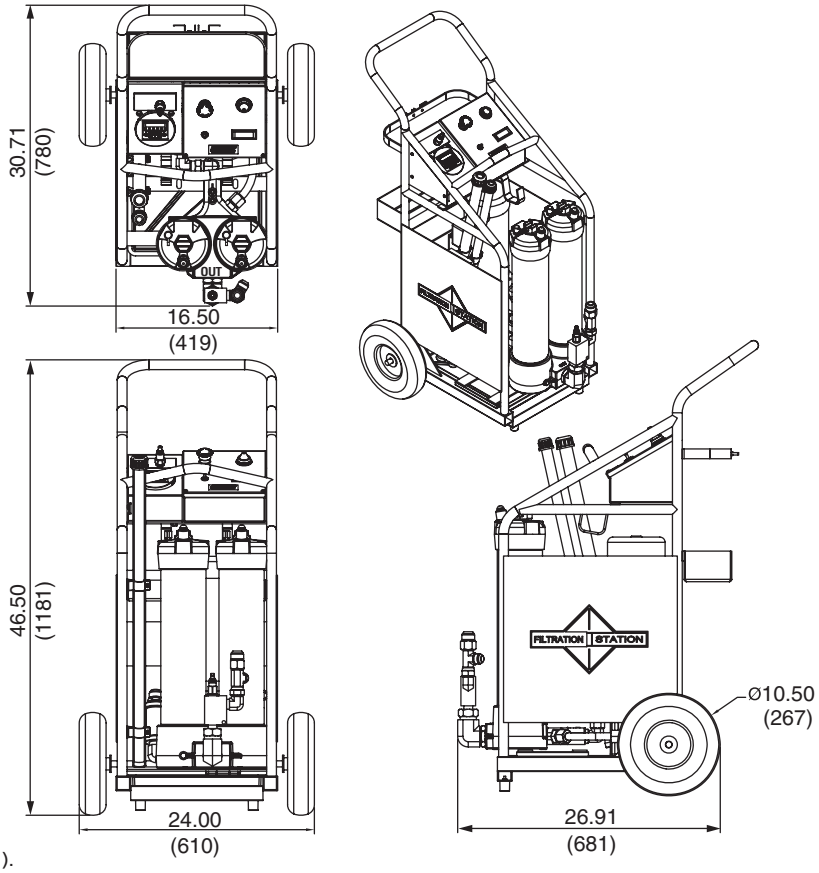
Filtration Station®

SMART® Product

FS



Metric dimensions in ( ).

Description

The Filtration Station® (FS) is capable of flushing, filtering, and monitoring ISO cleanliness with user-defined, automatic features. The FS is designed to transfer fluid through two (2) K9 filters in series for staged particulate or water/particulate removal. The FS is always furnished with two filter housings. Both filters are top-loading and include element indicators in the cap. A particle monitor reads samples from the pump discharge and displays ISO contamination codes on the control panel. The monitor allows the user to input the desired ISO cleanliness codes for the fluid. In auto mode, the system will run until the cleanliness codes are reached. Upon reaching the codes, the pump will stop and the cycle complete light will come on. When in manual mode, the system will run continuously and display the ISO codes. An optional water sensor is available for providing the water saturation of the fluid, which can be displayed on the control panel.

Features

- Real time monitoring of ISO cleanliness classes
- Automatic shutdown when user defined ISO codes are reached
- USB port allows the ISO code data to be downloaded for further processing and/or printing
- 30 mesh suction strainer and 230 micron filter and included to protect the particle monitor from clogging
- Optional water sensor allows real-time water saturation of the fluid to be displayed
- Bypass valve allows cart to be used as a transfer cart
- Single lift point
- Plastic removable drip pan

Applications

■ In-Plant Service	Filter to desired cleanliness levels and extend component life
■ Mobile Dealer Networks	Aid in certified re-builds, service maintenance contracts and total maintenance & repair programs
■ Original Equipment Manufacturer	Filter to require roll-off cleanliness levels
■ Lubricant Reclamation/Recycling	Clean oil to extend oil life and reduce hazardous waste

SMART Product Filtration Station®

Specifications

Flow Rating:	9 gpm (34 l/min)
Motor:	1 HP - 12.6 amps at 120 volts AC
Viscosity:	1000 SUS (216 cSt)
Maximum Pressure:	180 psi (12.5 bar)
Operating Temperature:	-20°F to 150°F (-29°C to 65°C)
Bypass Valve Setting:	Cracking: 30 psi (2 bar) x 2
Compatibility:	All petroleum-based hydraulic fluid. Contact factory for use with other fluids.
Element Change Clearance:	8.50 (215) 1K
Weight:	195 lbs (89 kg)

Element Performance Information

Element	Filtration Rating Per ISO 4572/NFPA T3.10.8.8 Using automated particle counter (APC) calibrated per ISO 4402 $\beta_x \geq 75$	$\beta_x \geq 100$	$\beta_x \geq 200$	Filtration Rating wrt ISO 16889 Using APC calibrated per ISO 11171 $\beta_{x(c)} \geq 200$	$\beta_{x(c)} \geq 1000$	Dirt Holding Capacity gm
KZ5/KKZ5	2.5	3.0	4.0	4.8	6.3	119 / 238
KZ10/KKZ10	7.4	8.2	10.0	8.0	10.0	108 / 216
KZ25/KKZ25	18.0	20.00	22.5	19.0	240.	93 / 186

Model Number Selection

How to Build a Valid Model Number for a Schroeder FS:

BOX 1	BOX 2	BOX 3	BOX 4	BOX 5	BOX 6	BOX 7	BOX 8	BOX 9
FS –	–	–	–	–	–	–	–	

Example: *NOTE: One option per box*

BOX 1	BOX 2	BOX 3	BOX 4	BOX 5	BOX 6	BOX 7	BOX 8	BOX 9
FS –	A –	1 –	09 –	Z03 –	Z01 –	V –	9	

BOX 1

Model
FS

BOX 2

Voltage
A = 120 VAC 60 Hz
B = 220 VAC 50 Hz

BOX 3

No. of Elements
1
2*

BOX 4

Element Length
09
18

BOX 5

Element Media First Filter
Z, EWR* plus 01, 03 05 10, 25

BOX 6

Element Media Second Filter
Z, EWR** plus 01, 03 05 10, 25

BOX 7

Seal Material
V = Viton

BOX 8

Pump Size (gpm)
9

BOX 9

Options
W = TWS-C Water Sensor

Notes:

*When Box 3 equals 2, Box 4 must equal 09.

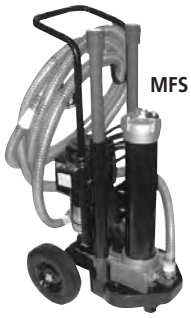
**Water removal (W) elements are indicated by an "EWR" in the part number and are not followed by a 01, 03, 05, 10 or 25.

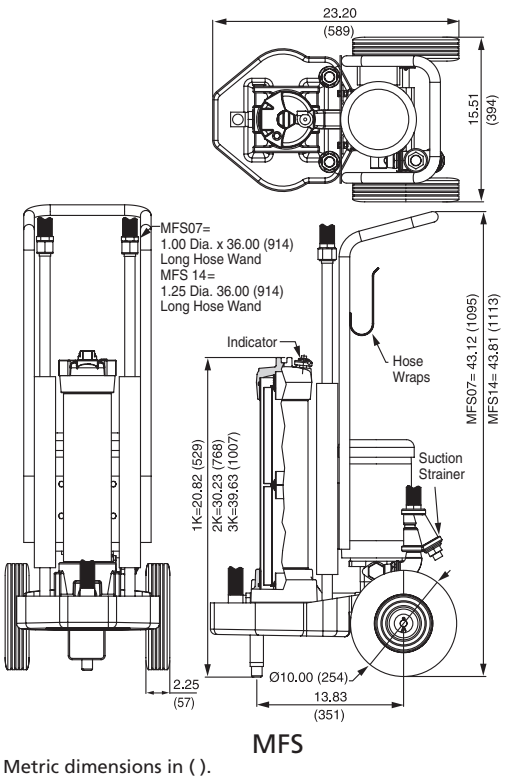
For orders outside the US & Canada, power plug is not provided.

Mobile Filtration Systems

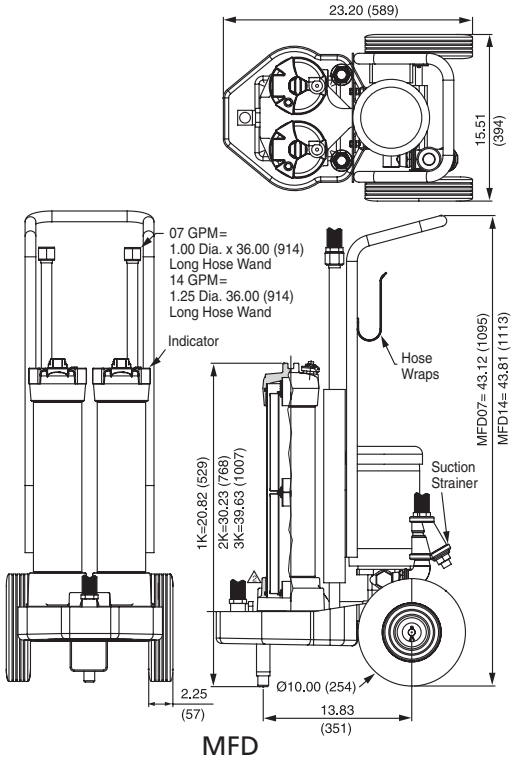
U.S. Patents 6568919

MFS
MFD





MFS



MFD

Metric dimensions in ( ).

Description

The Schroeder Mobile Filtration System is a compact, self-contained filtration system equipped with high efficiency, high capacity elements capable of removing particulate contamination and/or water quickly, conveniently and economically. It is perfect for cleaning up existing systems as well as for prefiltering new fluids, since new fluids often have contamination levels significantly higher than that recommended for most hydraulic systems.

The most attractive feature of the Mobile Filtration System is the significant reduction in noise, being reduced from 91 decibels to 72 decibels at full load. Additional improvements include a modular base that eliminates hoses and fittings between components, a drip pan, and easier element servicing through the new patent pending K9 base-ported filter housing.

The MFS single filtration unit can remove either water or particulate contamination. The MFD dual filtration unit can be used to remove both water and particulate contamination, or for staged particulate contaminant removal.

Features

- Modular base eliminates hoses between components and minimizes leakage
- Base-ported filter provides easy element service from the top cap
- Single, double and triple bowl length option allows the flexibility of additional dirt-holding capacity
- D5 Dirt Alarm® indicates when filter element needs changed
- Cleans up oil faster – 7 gpm and 14 gpm models available
- Hoses and connection tubes included
- Drip pan catches oil before it falls to the ground
- Integral suction strainer protects pump
- Off-line stationary system available – see Kidney Loop System, page 74
- Two 7/16 – 20 UNF sampling ports included on all models

Mobile Filtration Systems

U.S. Patents 6568919

Applications

- Supplementing continuous filtration by system filters
- Cleaning up a hydraulic system following component replacement
- Filtering new fluid before it is put into service
- Transferring fluid from storage tanks and drums to system reservoirs

Specifications

Flow Rating:	7 gpm (26.5 L/min) max or 14 gpm (53.0 L/min) max
Maximum Viscosity:	1000 SUS (216 cSt) Higher viscosity version available. Contact factory for details.
Hose Pressure Rating:	30 psig (2.0 bar) @ 150°F (65.6°C) Full vacuum @ 150°F (65.6°C)
Operating Temperature:	25°F to 150°F (-4°C to 65°C)
Bypass Valve Setting:	Cracking: 30 psi (2 bar)
Material:	Manifold and cap: Cast aluminum Element case: Steel
Compatibility:	All petroleum based hydraulic fluid. Contact factory for use with other fluids.
Motor:	115 VAC Single phase 3/4 hp (7 gpm) or 1-1/2 hp (14 gpm)
Element Change Clearance:	8.50 (215) 1K (9, 18 or 27" depending on model configuration)

Weights

GPM	MFS-1K lb (kg)	MFS-2K lb (kg)	MFS-3K lb (kg)	MFD-1K lb (kg)	MFD-2K lb (kg)	MFD-3K lb (kg)
7	170 (77)	180 (82)	190 (86)	185 (84)	203 (92)	220 (100)
14	177 (80)	187 (85)	197 (89)	192 (87)	210 (95)	227 (103)

Model Number Selection

How to Build a Valid Model Number for Schroeder Mobile Filtration Systems:

BOX 1		BOX 2		BOX 3		BOX 4		BOX 5		BOX 6		BOX 7
	–		–		–		–		–		–	

Example: *NOTE: One option per box*

BOX 1		BOX 2		BOX 3		BOX 4		BOX 5		BOX 6		BOX 7
MFS	–	1	–	09	–	Z	–	Z	–	B	–	14

BOX 1	BOX 2	BOX 3	BOX 4	BOX 5	BOX 6	BOX 7
Model	No. of Elements*	Element Length	Element Media First Filter	Element Media Second Filter (MFD Only)****	Seal Material	Pump Size (gpm)
MFS MFD	1 2 3	09* 18 27	E**, Z, EWR*** plus 01, 03 05 10, 25	E**, Z, EWR*** plus 01, 03 05 10, 25	B = Buna N V = Viton H.5 = Skydrol***** compatibility	07 14

Preferred order codes designate shorter lead times and faster delivery.

Notes:

*When Box 2 equals 2 or 3, Box 3 must be 09. 09 is a preferred order code only when the number of elements is 3.

**E media elements are only available in 03, 10 and 25 microns.

***Water removal (W) elements are indicated by an "EWR" in the part number and are not followed by a 01, 03, 05, 10 or 25.

****When MFD is ordered, the number of elements, element length, and seals will be identical for both filter housings.

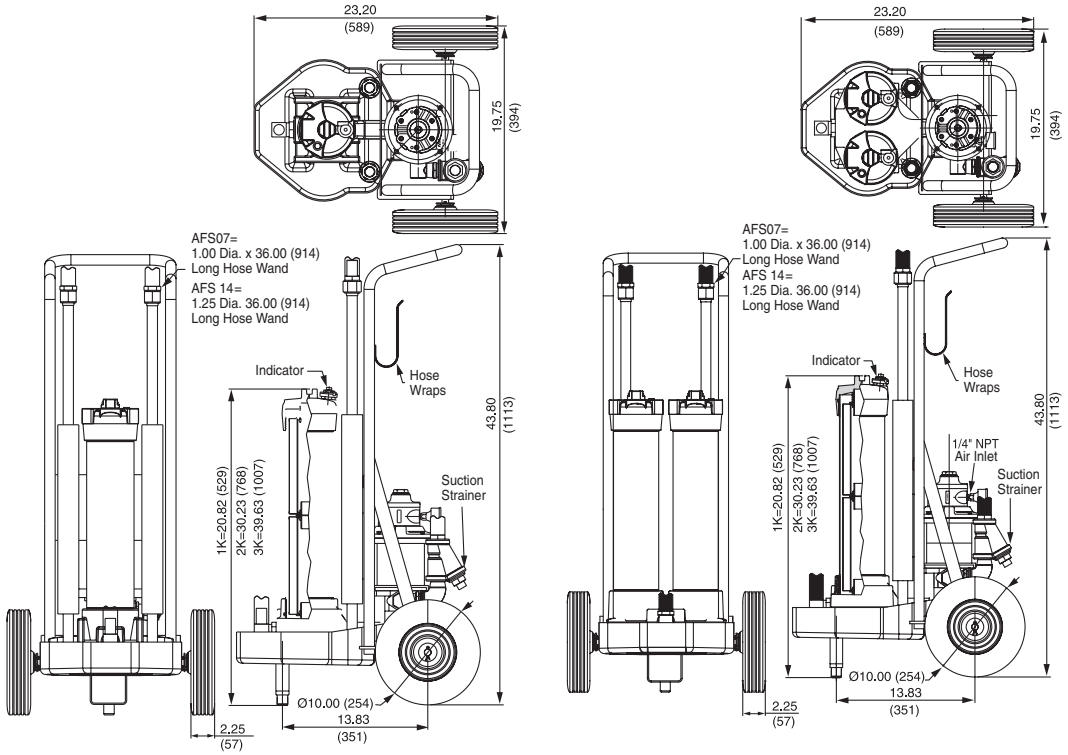
*****H.5 seal designation may be used with 3, 5, 10, and 25µ Z (synthetic) and calls for EPR seals, stainless steel wire mesh in element(s) and Imron® epoxy coated enclosures on cart.
Imron is a registered trademark of DuPont.

Contact factory for high viscosity version.

Air-Operated Mobile Filtration Systems

U.S. Patents 6568919

AMS AMD



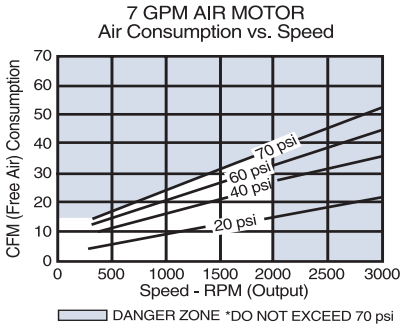
AMS AMD

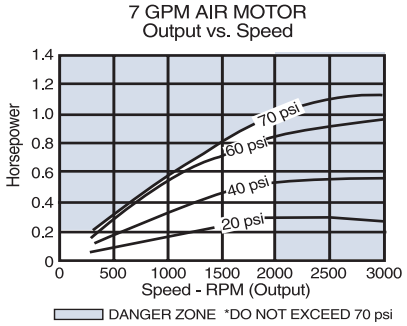
Metric dimensions in ( ).

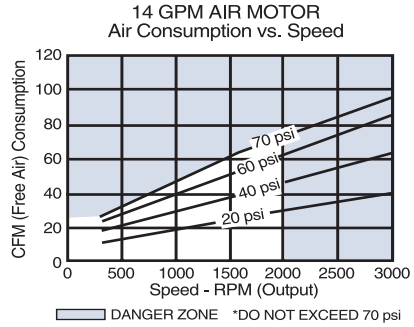
Description

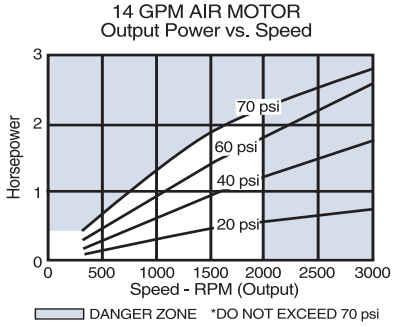
Schroeder's AMS and AMD carts feature a pneumatic motor in place of the standard electric motor. The pneumatic motor offers the same flow capability using the same components, but without the need for an electrical outlet. This provides a major advantage in the application of this unit. With no need for an electrical outlet, it is more portable than the standard electric-motored skids and carts.

Because most trucks and industrial machinery are already equipped with an air compressor, a simple connection to the 1/4" NPT port will easily power the 1.5 HP (or 4.0 HP) motor. At 70 psi, and 2000 rpm, this motor consumes less than 40 cfm (70 cfm for the 4.0 HP motor) of compressed air. Because no electricity is used, the pneumatic motor is ideal for working in hazardous environments such as mines.









Note: Performance data represents a 4-vane model with no exhaust restriction.

Air-Operated Mobile Filtration Systems

U.S. Patents 6568919

Applications

- Supplementing continuous filtration by system filters
- Cleaning up a hydraulic system following component replacement
- Filtering new fluid before it is put into service
- Transferring fluid from storage tanks and drums to system reservoirs
- Field applications on service trucks

Specifications

Flow Rating:	7 gpm (26.5 L/min) max and 14 gpm (53.0 L/min) max
Maximum Viscosity:	1000 SUS (216 cSt) Higher viscosity version available. Contact factory for details.
Housing Pressure Rating:	250 psi (17.2 bar) max operating[1] 1000 psi (68.9 bar) min yield
Operating Temperature:	-25°F to 150°F (-29°C to 65°C)[2]
Bypass Valve Setting:	Cracking: 30 psi (2 bar)
Material:	Manifold and cap: Cast aluminum Element case: Steel
Compatibility:	All petroleum based hydraulic fluid. Contact factory for use with other fluids.
Element Change Clearance:	8.50 (215) 1K (9, 18 or 27" depending on model configuration)

[1]For higher hose pressure applications contact factory.
[2]For higher temperature applications contact factory.

Weights

GPM	AMS-1K lb (kg)	AMS-2K lb (kg)	AMS-3K lb (kg)	AMD-1K lb (kg)	AMD-2K lb (kg)	AMD-3K lb (kg)
7	170 (77)	180 (82)	190 (86)	185 (84)	203 (92)	220 (100)
14	177 (80)	187 (85)	197 (89)	192 (87)	210 (95)	227 (103)

Model Number Selection

How to Build a Valid Model Number for Schroeder Air-Operated Mobile Filtration Systems:

BOX 1		BOX 2		BOX 3		BOX 4		BOX 5		BOX 6		BOX 7
	–		–		–		–		–		–	

Example: *NOTE: One option per box*

BOX 1		BOX 2		BOX 3		BOX 4		BOX 5		BOX 6		BOX 7
AMS	–	1	–	09	–	Z	–	Z	–	B	–	14

BOX 1	BOX 2	BOX 3	BOX 4	BOX 5	BOX 6	BOX 7
Model	**No. of Elements***	**Element Length**	**Element Media First Filter**	**Element Media Second Filter (AMD Only)******	**Seal Material**	**Pump Size (gpm)[1]**
AMS AMD	1 2 3	09 18 27	E**, Z, EWR*** plus 01, 03 05 10, 25	E**, Z, EWR*** plus 01, 03 05 10, 25	B = Buna N	07[2] 14[2]

Notes:

1. GPM only valid with fluids up to 1000 SUS.
2. 07 GPM - 50 CFM at 70 psi.
   14 GPM - 70 CFM at 70 psi.

*When Box 2 equals 2 or 3, Box 3 must be 09.
**E media elements are only available in 03, 10 and 25 microns.
***Water removal (W) elements are indicated by an "EWR" in the part number and are not followed by a 01, 03, 05, 10 or 25.
****When AMD is ordered, the number of elements, element length, and seals will be identical for both filter housings.

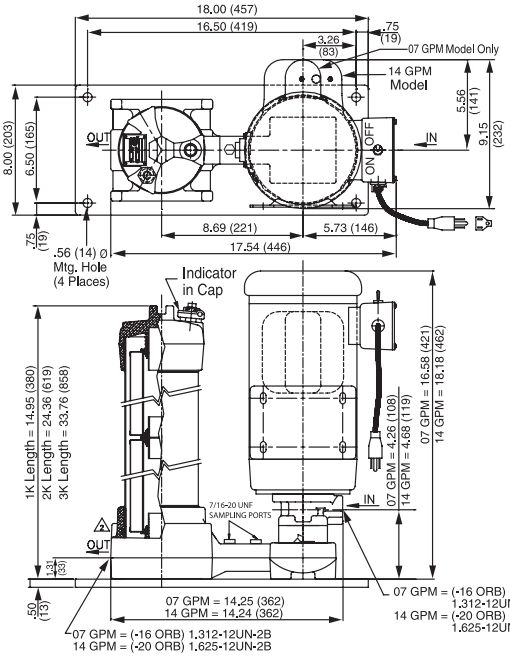
Kidney Loop Systems

U.S. Patents 6568919

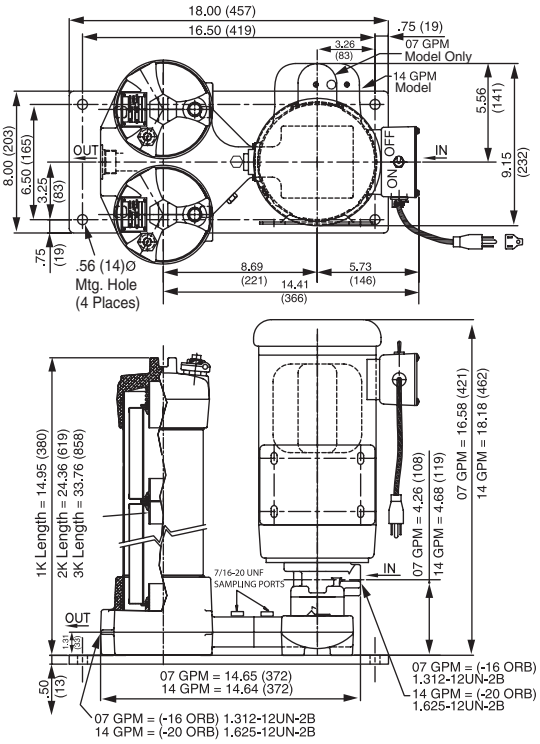
KLS
KLD


KLS


KLD



KLS



KLD

Metric dimensions in ( ).

Description

Schroeder's new off-line Kidney Loop System is a stationary version of the Mobile Filtration System. It is a compact, self-contained filtration system equipped with high efficiency, high capacity elements capable of removing particulate contamination and/or water quickly, conveniently and economically. This off-line system can be used to supplement in-line filters when adequate turnover cannot be achieved in the system. It is also ideal for water removal. Like the Mobile Filtration System, the new Kidney Loop System operates at a surprisingly low noise level. Its modular base eliminates hoses and fittings between components. The KLS single filtration unit can remove either water or particulate contamination. The KLD dual filtration unit can be used to remove both water and particulate contamination, or for staged particulate contaminant removal.

Features

- Modular base eliminates connections between components and minimizes leakage
- Base-ported filter provides easy element service from the top cap
- Single, double and triple bowl length option allows the flexibility of additional dirt-holding capacity
- D5 Dirt Alarm® indicates when filter element needs changed
- Two 7/16 – 20 UNF sampling port included on all models

Kidney Loop Systems

U.S. Patents 6568919

Applications

- Supplementing in-line filtration by system filters when adequate turnover cannot be attained
- Large volume systems requiring multiple filters in different locations
- Cleaning up a hydraulic system following component replacement
- Ideal location for water removal

Specifications

Flow Rating:	7 gpm (26.5 L/min) max and 14 gpm (53.0 L/min) max
Maximum Viscosity:	1000 SUS (216 cSt) Higher viscosity version available. Contact factory for details.
Operating Temperature:	-20°F to 150°F (-29°C to 65°C)
Bypass Valve Setting:	Cracking: 30 psi (2 bar)
Material:	Manifold and cap: Cast aluminum Element case: Steel
Compatibility:	All petroleum based hydraulic fluid. Contact factory for use with other fluids.
Motor:	115 VAC single phase 3/4 hp (7 gpm) or 1-1/2 hp (14 gpm)
Weight:	**KLS-1:** 101 lb (45.9 kg) **KLS-2:** 112 lb (50.9 kg) **KLS-3:** 123 lb (55.9 kg) **KLD-1:** 117 lb (53.2 kg) **KLD-2:** 139 lb (63.2 kg) **KLD-3:** 161 lb (73.2 kg)

Model Number Selection

How to Build a Valid Model Number for Schroeder Kidney Loop Systems:

BOX 1		BOX 2		BOX 3		BOX 4		BOX 5		BOX 6		BOX 7
	–		–		–		–		–		–	

Example: *NOTE: One option per box*

BOX 1		BOX 2		BOX 3		BOX 4		BOX 5		BOX 6		BOX 7
KLS	–	1	–	18	–	E	–	E	–	V	–	07

BOX 1	BOX 2	BOX 3	BOX 4	BOX 5	BOX 6	BOX 7
Model	**No. of Elements***	**Element Length**	**Element Media First Filter**	**Element Media Second Filter (KLD Only)******	**Seal Material**	**Pump Size (gpm)**
KLS KLD	1	09*	E**, Z, EWR***	E**, Z, EWR***	B = Buna N	07
	2	18	plus 01, 03	plus 01, 03	V = Viton	14
	3	27	05 10, 25	05 10, 25		

Preferred order codes designate shorter lead times and faster delivery.

Notes:

*When Box 2 equals 2 or 3, Box 3 must be 09. 09 is a preferred order code only when the number of elements is 3.

**E media elements are only available in 03, 10 and 25 microns.

***Water removal (W) elements are indicated by an "EWR" in the part number and are not followed by a 01, 03, 05, 10 or 25.

****When KLD/KSD is ordered, the number of elements, element length, and seals will be identical for both filter housings.

Contact factory if EPR seals are required.

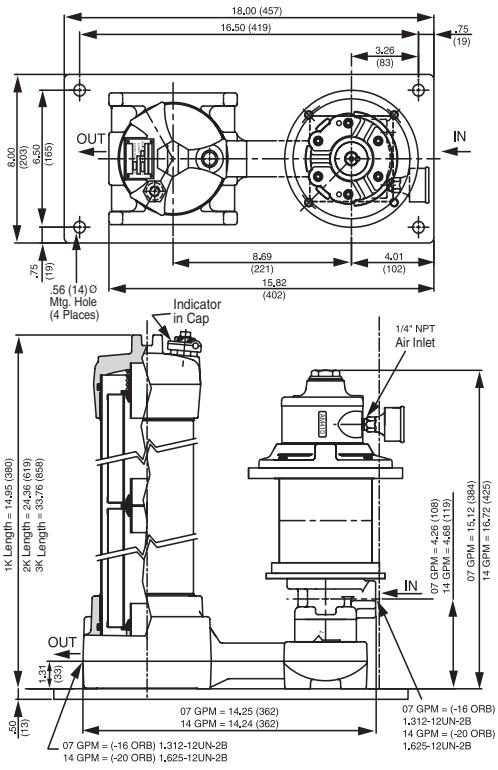
Contact factory for high viscosity version.

Air-Operated Kidney Loop Systems

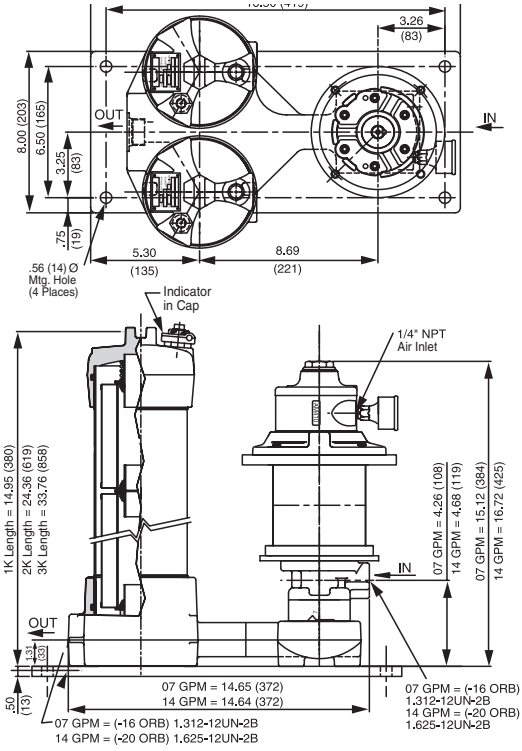
U.S. Patents 6568919 6979397

AKS
AKD

AKS



AKS



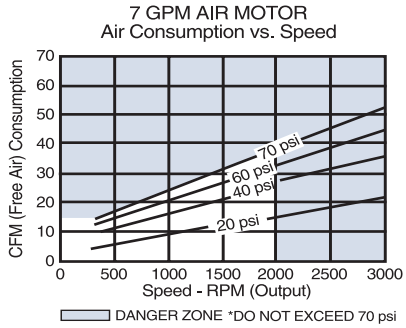
AKD

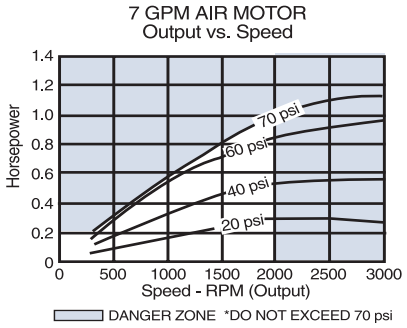
Metric dimensions in ( ).

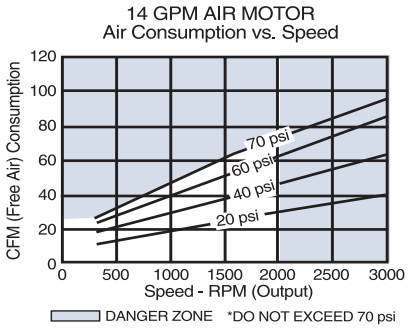
Description

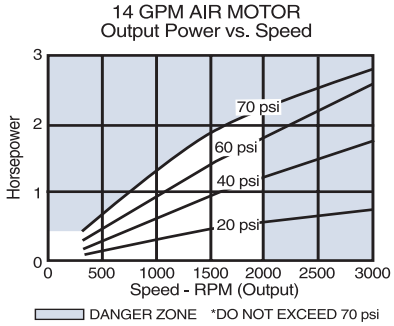
Schroeder now offers a kidney loop filtration system with a pneumatic motor in place of the standard electric motor. The pneumatic motor offers the same flow capability using the same components, but without the need for an electrical outlet. This provides a major advantage in the application of this unit. With no need for an electrical outlet, it is more portable than the standard electric-motored skids and carts.

Because most trucks and industrial machinery are already equipped with an air compressor, a simple connection to the 1/4" NPT port will easily power the 1.5 HP (or 4.0 HP) motor. At 70 psi, and 2000 rpm, this motor consumes less than 40 cfm (70 cfm for the 4.0HP motor) of compressed air. Because no electricity is used, the pneumatic motor is ideal for working in hazardous environments such as mines.









Note: Performance data represents a 4-vane model with no exhaust restriction.

Air-Operated Kidney Loop Systems

U.S. Patents 6568919 6979397

Applications

- Supplementing in-line filtration by system filters when adequate turnover cannot be attained
- Large volume systems requiring multiple filters in different locations
- Cleaning up a hydraulic system following component replacement
- Ideal location for water removal
- Field applications on service trucks

Specifications

Flow Rating:	7 gpm (26.5 L/min) max and 14 gpm (53.0 L/min) max
Maximum Viscosity:	1000 SUS (216 cSt) Higher viscosity version available. Contact factory for details.
Operating Temperature:	-20°F to 150°F (-29°C to 65°C) For higher temperature applications contact factory.
Bypass Valve Setting:	Cracking: 30 psi (2 bar)
Material:	Manifold and cap: Cast aluminum Element case: Steel
Compatibility:	All petroleum based hydraulic fluid. Contact factory for use with other fluids.
Element Change Clearance:	8.50 (215) 1K

Model Number Selection

How to Build a Valid Model Number for Schroeder Air-Operated Kidney Loop Systems:

BOX 1		BOX 2		BOX 3		BOX 4		BOX 5		BOX 6		BOX 7
	–		–		–		–		–		–	

Example: *NOTE: One option per box*

BOX 1		BOX 2		BOX 3		BOX 4		BOX 5		BOX 6		BOX 7
AKS	–	1	–	09	–	Z	–	Z	–	B	–	14

BOX 1 Model	BOX 2 No. of Elements*	BOX 3 Element Length	BOX 4 Element Media First Filter	BOX 5 Element Media Second Filter (AKD Only)****	BOX 6 Seal Material	BOX 7 Pump Size (gpm)[1]
AKS AKD	1 2 3	09 18 27	E**, Z, EWR*** plus 01, 03 05 10, 25	E**, Z, EWR*** plus 01, 03 05 10, 25	B = Buna N	07[2] 14[2]

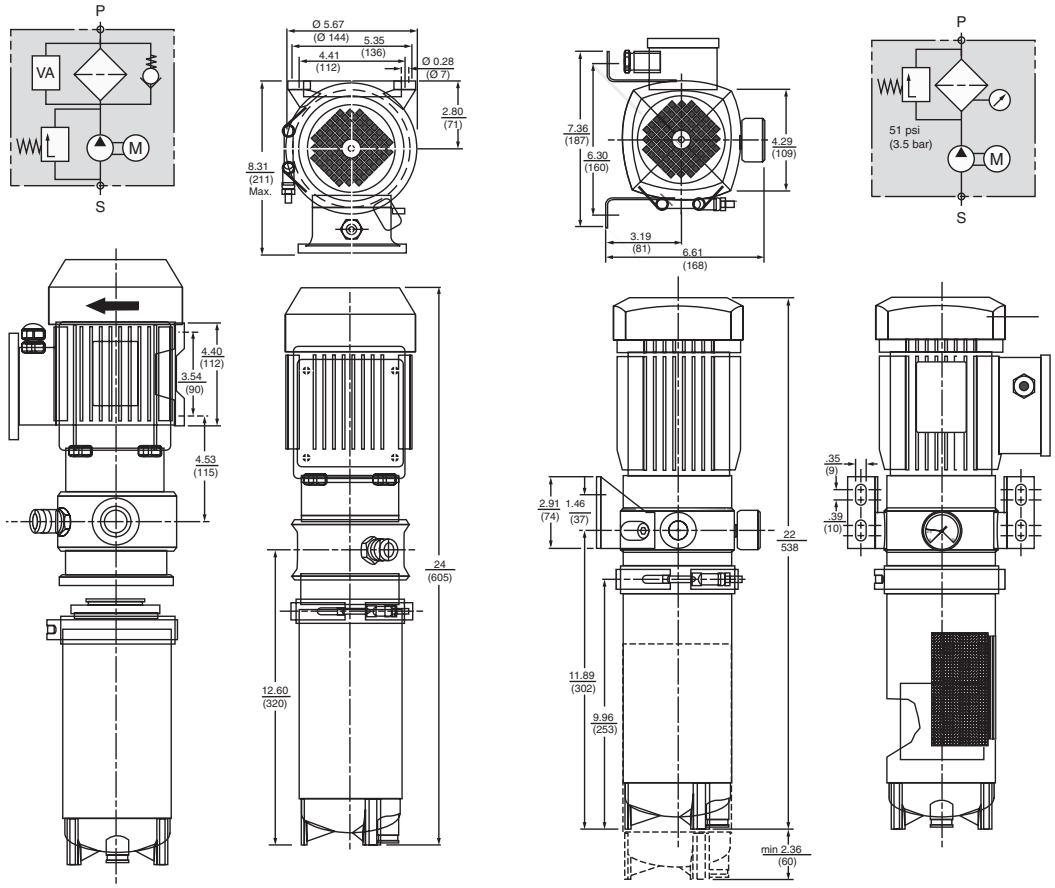
Notes:

1. GPM only valid with fluids up to 1000 SUS.
2. 07 GPM - 50 CFM at 70 psi.
   14 GPM - 70 CFM at 70 psi.

*When Box 2 equals 2 or 3, Box 3 must be 09.
**E media elements are only available in 03, 10 and 25 microns.
***Water removal (W) elements are indicated by an "EWR" in the part number and are not followed by a 01, 03, 05, 10 or 25.
****When AKD is ordered, the number of elements, element length, and seals will be identical for both filter housings.

Kidney Loop Systems

KLC



Metric dimensions in ( ).

Description

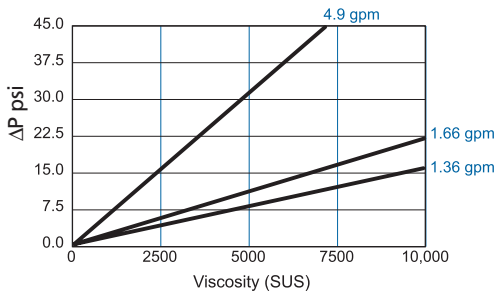
Schroeder's new series of Kidney Loop - Compact (KLC) filters are designed to filter highly contaminated hydraulic oils efficiently and cost effectively off-line. The KLC is designed for use containing up to 100 gallons and is perfect for retrofit situations when additional filtration is required. This compact filter is easy to install and ideal for gear boxes. They are supplied as ready-to-install off-line units complete with pump/motor assembly.

Features

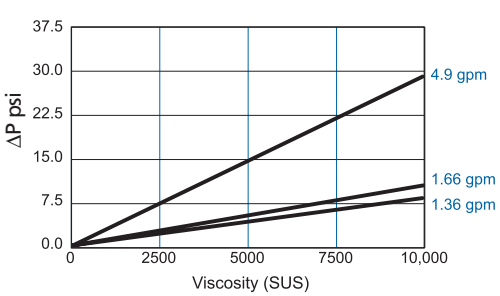
- Lower operating costs
- Extended element service life
- Extended fluid life
- Cleaner and more efficient systems
- Easy installation
- High dirt-holding capacity
- Requires low volume of oil

Pressure Drop

KLE02 (2 µm element without water retention)



KLE20 (20 µm element without water retention)



Kidney Loop Systems

Applications

- Injection molding machines
- Machine tools
- Gear boxes
- Mobile equipment
- Filtration of fluids for intermittently operated hydraulic systems and test stands

Specifications

Viscosity:	**KLC04** to 10,000 SUS **KLC05** to 700 SUS **KLC15** to 3,000 SUS
Operating Pressure:	45 psi (3 bar) max
Suction Pressure:	11" Hg (-0.4 to 6 bar) max
Fluid Temperature:	32°F to 175°F (0°C to 80°C)
Ambient Temperature:	-4°F to 104°F (-20°C to 40°C)
Seals:	Buna N
Maximum Flow Rate:	**KLC04** 1.3 gpm **KLC05** 1.6 gpm **KLC15** 4.9 gpm
Fluids:	Standard mineral oils, water/oil based fluids (min 40% oil in fluid), Consult factory for other fluids
Media:	Membrane with or without water removal capability - (2 µm, 20 µm)
Dirt Holding Capacity:	200g ISO MTD / 185g ISO MTD
Water Retention:	Approximately 0.5 quarts (0.5 liters)
Beta Ratio:	ßx > 1000
Maximum ΔP:	45 psi (3 bar)
Connections with Pump/Motor:	**KLC04** Inlet & Outlet: SAE 16 (BSPP G1) **KLC05** Inlet & Outlet: SAE 8 (BSPP G1/2) **KLC15** Inlet & Outlet: SAE 8 (BSPP G1)
Weight:	**KLC04** 24.3 lbs (11.0 kg) **KLC05** 15.5 lbs (7.0 kg) **KLC15** 24.3 lbs (11.0 kg)

Note: SAE connections when using supplied adapters; BSPP connections when supplied adapters are not used. Housing drain standard on all models.

Model Number Selection

How to Build a Valid Model Number for a Schroeder KLC:

BOX 1		BOX 2		BOX 3		BOX 4		BOX 5
	–		–		–		–	

Example: *NOTE: One option per box*

BOX 1		BOX 2		BOX 3		BOX 4		BOX 5
KLC04	–	V	–	3	–	20	–	VD

BOX 1 – Model

KLC04
KLC05
KLC15

BOX 2 – Pump Type

V = Vane Pump
F* = Flow Control Valve (pump and motor not included)

BOX 3 – Voltage

1 = 12VDC
2 = 24VDC
3 = 115V single phase
4 = 220V single phase
5 = 220/440V 3 phase

BOX 4 – Element

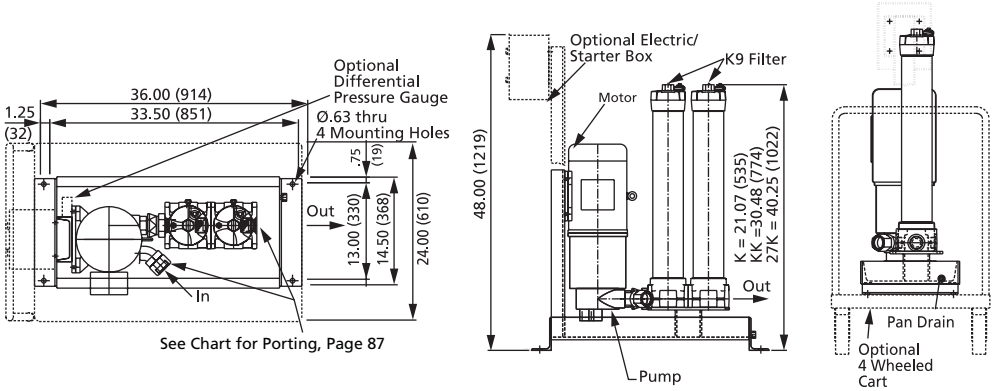
2 = 2 micron
10 = 10 micron
20 = 20 micron
A02 = 2 micron with water removal
A20 = 20 micron with water removal

BOX 5 – Indicator

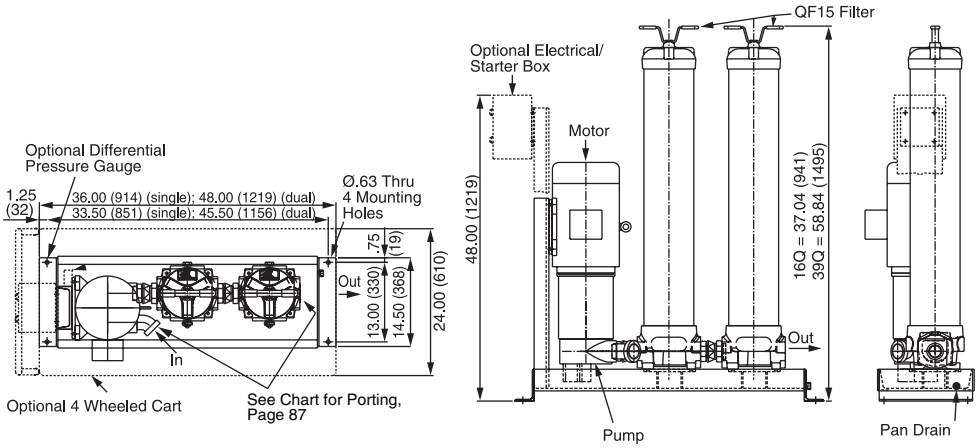
F = Static Electrical Switch
VD** = Differential Visual
ED** = Differential Electrical
EVD** = Differential Visual/ Electrical
G* = Standard Gauge

Notes:
*Only available with KLC05.
**Only available with KLC04 and KLC15.

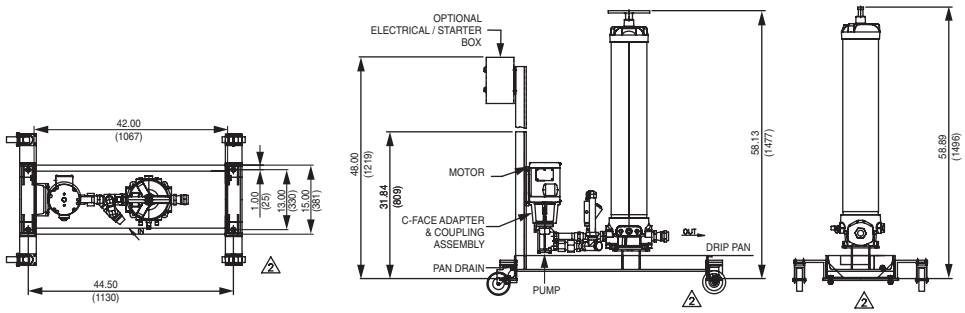
X Series Filter Skids



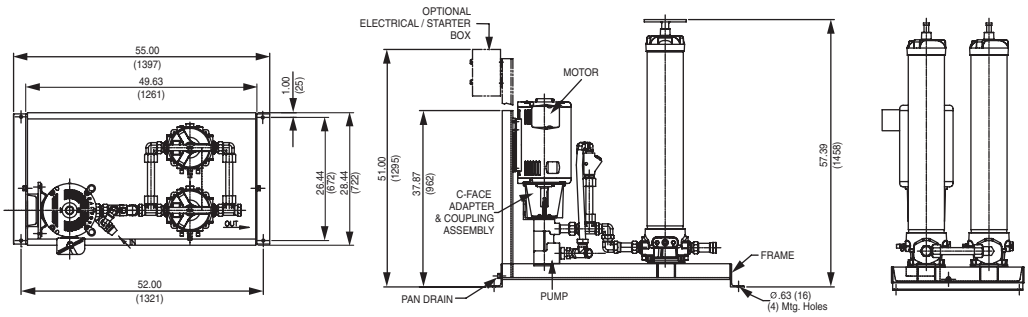
Dual K9 Filter Version (Series X4, X5 and X6)



Dual QF15 Filter Version (Series X4, X5 and X6)



Series X7



Series X8

Metric dimensions in ( ).

X Series Filter Skids

Model Number Selection

How to Build a Valid Model Number for a Schroeder X Series Filter Skid:

BOX 1	BOX 2	BOX 3	BOX 4	BOX 5	BOX 6	BOX 7	BOX 8	BOX 9	BOX 10	BOX 11	BOX 12
	–	–	–	–	–	–	–	–	–	–	

Example: *NOTE: One option per box*

BOX 1	BOX 2	BOX 3	BOX 4	BOX 5	BOX 6	BOX 7	BOX 8	BOX 9	BOX 10	BOX 11	BOX 12
X1 –	09 –	K92K –	B –	B –	B –	N –	N –	A –	G –	N –	N

BOX 1 / BOX 2 / BOX 3

Skid Series	Flow (gpm)	Filter Designation K9 Filter 1K	K9 Filter 2K	K9 Filter 3K	QF15 Filter 16Q	QF15 Filter 39Q
X1	09	1K	2K	3K		
	17	1K	2K	3K	1Q	
	37	1K	2K	3K	1Q	3Q
	82			3K	1Q	3Q
X2[1]	09	1K	2K	3K		
	17		2K	3K	1Q	
	37			3K		3Q
	82					3Q
X3[2]	09	1K	2K	3K	1Q	3Q
	17		2K	3K	1Q	3Q
	37			3K		3Q
X4	09	1K	2K	3K		
	17	1K	2K	3K	1Q	
	37	1K	2K	3K	1Q	3Q
	82			3K	1Q	3Q
X5[1]	09	1K	2K	3K		
	17		2K	3K	1Q	
	37			3K		3Q
	82					3Q
X6[2]	09	1K	2K	3K	1Q	3Q
	17		2K	3K	1Q	3Q
	37			3K		3Q
X7	06					3Q
X8	30					3Q

BOX 4 – Element Media 1st Filter[1-4]

- A = Z1 (K or Q)
- B = Z3 (K or Q)
- C = Z5 (K or Q)
- D = Z10 (K or Q)
- E = Z25 (K or Q)
- F = QCLQFZ1
- G = QCLQFZ3
- H = QCLQFZ5
- J = QCLQFZ10
- L = QCLQFZ25
- M = QPMLZ1
- P = QPMLZ3
- R = QPMLZ5
- S = QPMLZ10
- T = QPMLZ25
- W = W

BOX 5 – Element Media 2nd Filter[1-4]

- N = NA
- A = Z1 (K or Q)
- B = Z3 (K or Q)
- C = Z5 (K or Q)
- D = Z10 (K or Q)
- E = Z25 (K or Q)
- F = QCLQFZ1
- G = QCLQFZ3
- H = QCLQFZ5
- J = QCLQFZ10
- L = QCLQFZ25
- M = QPMLZ1
- P = QPMLZ3
- R = QPMLZ5
- S = QPMLZ10
- T = QPMLZ25
- W = W

BOX 6 – Seal Material

- B = Buna (Standard)
- H = EPR
- V = Viton

BOX 7 – Power

- A = 115 VAC[8] 1.5 hp (Available only with 109, 209, and 309)
- N = 230/460 VAC 3 PH.
- E = 575 VAC[9] 3 PH.

BOX 8 – Motor Frame

- N = TEFC
- W = Washdown (NEMA Design B)

BOX 9 – Starter Control Options[5, 6]

- N = None
- A = 230 VAC
- B = 460 VAC
- C = 230 VAC (with VFD)
- D = 460 VAC (with VFD)
- E = 575 VAC
- F = 575 VAC (with VFD)

BOX 10 – Dirt Alarm

- N = Cartridge in Cap (Standard)
- G = Differential Pressure Gauge
- M = MS11[5, 6] Electric Cartridge
- C = Differential Pressure Gauge with Electric Switch[5, 6]

BOX 11 – Vacuum Gauge

- N = None
- V = Vacuum Gauge

BOX 12 – Miscellaneous Options

- N = None
- S = Suction Strainer
- C = Mobile
- B = Continuous Bleed[7]
- P = Particle Counter
- A = Automatic Control

1. Z1 media not offered for use in 500 to 2000 SUS filtration skids. Contact factory for specific applications.
2. Z1 and Z3 media not offered for use in 2000 to 5000 SUS filtration skids. Contact factory for specific applications.
3. All elements are singular construction (no stacked elements)
4. QPML and QCLZ coreless elements only available in the QF15 housing.
5. Motor starter control option – C-series, non-disconnect shut-off, "motor on" light, electrical indicator "change element" light, and type 4x wash down enclosure.
6. VFD control option – same as above but with enclosed variable frequency drive control and larger metal NEMA enclosure.
7. Continuous bleed option – to eliminate filter air buildup in continuously aerated systems. Includes cap vent port, valve, and return line.
8. 115 VAC power option includes switch, 10' cord, and plug. For 1.5 hp motors only.
9. 575 will be built to CSA standards.
10. X7 and X8 not available with mobile (4-wheeled cart) option.
11. X7 and X8 only available with options D and E for boxes 4 and 5.
12. X7 and X8 only available with 230/460 VAC 3 phase motor.
13. Suction strainer standard on X7 and X8.

SMART® Product

X Series Filter Skids

Description

Schroeder's new X Series filtration skids are compact, self-contained filtration systems equipped with high efficiency, high capacity elements capable of removing particulate contamination and/or water quickly and economically. They supplement in-line filters whenever the existing filtration is incapable of obtaining the desired ISO cleanliness level.

It is not uncommon for viscosity to be overlooked when specifying an off-line filtration unit. The results of this oversight can severely affect system efficiency and longevity, and render the filtration system useless when high viscosity fluid causes the filter to be in constant bypass. Schroeder considers maximum fluid viscosity, (at the minimum operating temperature) in conjunction with flow to properly size the pump and motor.

Standard X Series skids (X1 through X6) include a hydraulic pump, electric motor, and either a single or dual K9 or QF15 housing. Many different component combinations provide the flexibility to match specific system viscosity, flow, and cleanliness requirements. Multiple housing lengths give the option of adding additional dirt holding capacity.

Schroeder's high viscosity X Series skids (X7 and X8) are designed to handle fluids that have a viscosity as high as 25,000 SUS. The skids have 39" long QF15 filters to efficiently clean the viscous fluids. The filters have a high dirt-holding capacity, capable of holding almost 1000 grams of dirt depending on the element. X7 and X8 skids include a pump, motor, QF15 filter, suction strainer, and dirt indicator. Various options can account for specific user needs.

Skid Selection

Series	Viscosity Range	Filter Housing(s)	Maximum Flow
X1	150 - 500 SUS	(1) QF15 or K9	82 gpm (310 L/min)
X2	500 - 2000 SUS	(1) QF15 or K9	82 gpm (310 L/min)
X3	2000 - 5000 SUS	(1) QF15 or K9	37 gpm (140 L/min)
X4	150 - 500 SUS	(2) QF15 or K9 in series	82 gpm (310 L/min)
X5	500 - 2000 SUS	(2) QF15 or K9 in series	82 gpm (310 L/min)
X6	2000 - 5000 SUS	(2) QF15 or K9 in series	37 gpm (140 L/min)
X7	100 - 25,000 SUS	(1) QF15	6 gpm (23 L/min)
X8	100 - 25,000 SUS	(2) QF15 in parallel	30 gpm (114 L/min)

Specifications

Flow Rating:	Up to 82 gpm (310 L/min)
Temp. Range:	0°F to 180°F (-17°C to 82°C)
Bypass Valve Setting:	50 psi (3.5 bar) for skid series X1, X2, X3, X4, X5, X7, and X8 40 psi (2.8 bar) for skid series X6
Fluid Viscosity:	Up to 25,000 SUS (see Skid Selection; previous page)
Compatibility:	All petroleum based hydraulic fluids. Contact Schroeder for use with other fluids, including ester and skydrol.
Pump:	**X1-X6:** Continuous duty gear pump with integral 150 psi relief. Flow dependent on skid series and motor. Refer to table below. **X7-X8:** Positive displacement rotary screw pumps
Motor:	Horsepower dependent on skid series and flow. Refer to table below.
Porting:	Dependent on flow. Refer to table below.

Pump and Motor Data

Skid Series	Flow (gpm)	Motor (hp)	Skid Series	Flow (gpm)	Motor (hp)
X1	09	1.5	X5	09	2
	17	3		17	5
	37	5		37	10
	82	10		82	15
X2	09	1.5	X6	09	2
	17	3		17	5
	37	5		37	10
	82	10	X7	06	2
X3	09	1.5	X8	30	15
	17	5			
	37	10			
X4	09	2			
	17	3			
	37	5			
	82	10			

X Series Filter Skids

Porting Data

Flow (gpm)	Inlet Port Sizes	Outlet Port Sizes with K9 & MK9 Filters	Outlet Port Sizes with QF15 Filters
06	1" JIC	N/A	1.625-12UN-2B SAE O-Ring Boss
09	1.625-12UN-2B SAE O-Ring Boss	1.312-12UN-2B SAE O-Ring Boss	1.625-12UN-2B SAE O-Ring Boss
17	1.875-12UN-2B SAE O-Ring Boss	1.625-12UN-2B SAE O-Ring Boss	1.625-12UN-2B SAE O-Ring Boss
30	2" JIC	N/A	1.625-12UN-2B SAE O-Ring Boss
37	2" JIC	1.875-12UN-2B SAE O-Ring Boss	1.875-12UN-2B SAE O-Ring Boss
82	2" JIC	1.875-12UN-2B SAE O-Ring Boss	2.500-12UN-2B SAE O-Ring Boss

Weight Data

Skid Series	Flow (gpm)	Weight (lb)*	Skid Series	Flow (gpm)	Weight (lb)*
X1	09	238-357	X5	09	301-442
	17	300-504		17	396-684
	37	329-577		37	497-849
	82	476-705		82	947-1054
X2	09	238-357	X6	09	267-650
	17	311-504		17	370-659
	37	348-577		37	502-607
	82	597-705	X7	06	Contact factory
X3	09	238-479	X8	30	Contact factory
	17	340-580			
	37	461-566			
X4	09	372-442			
	17	353-662			
	37	398-791			
	82	551-904			

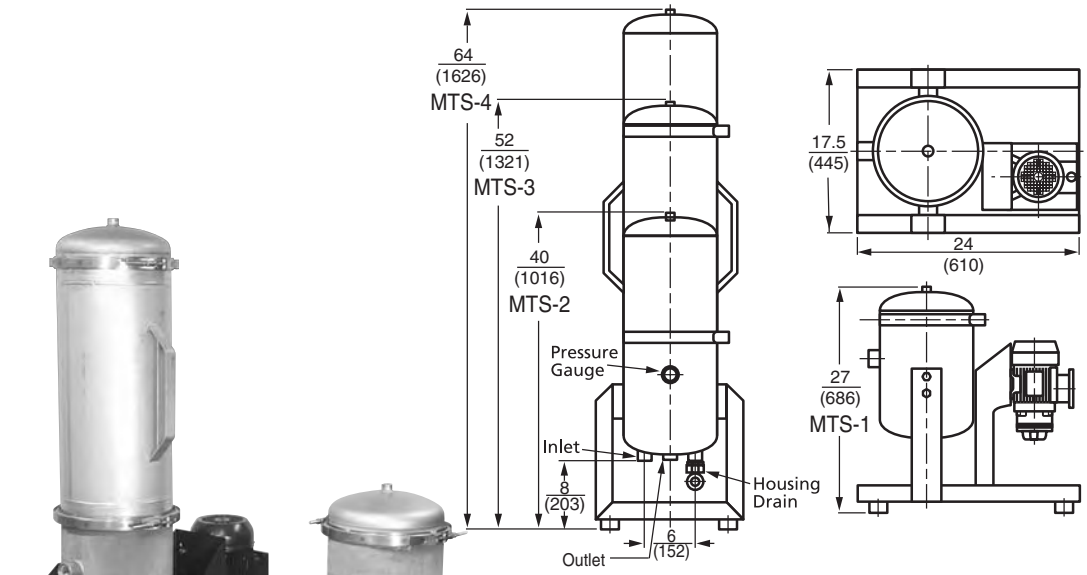
*Weight dependent on options chosen.

Features

- Protects and extends the life of expensive components
- Minimizes downtime and maintenance costs
- Designed to handle high viscosity oils up to 25,000 SUS (see Skid Selection; previous page)
- Many component combinations and variable starter options allow the flexibility to match specific user needs
- Four wheel cart option provides product portability
- Integral drip pan with drain plug protects oil from spilling on ground
- Sample valves provided at filter base for fluid sampling
- Market leading Schroeder Excellement® synthetic filtering media provides for quick, efficient clean up with maximum element life
- Availability of all plastic, environmentally friendly, coreless elements for QF15 housings (X1-X6 only)

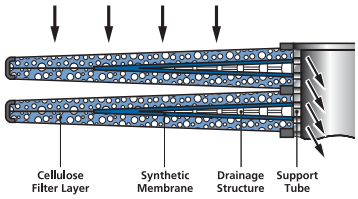
Membrane Technology Systems

MTS



Metric dimensions in ( ).

Single Membrane Element



Element Cross Section

Description

The MTS from Schroeder is an off-line filtration system that features unique membrane elements constructed of stacked disks where dirt holding capacity is measured in pounds instead of grams, drastically reducing the amount of time required to clean up highly contaminated fluids. The abundant media surface area afforded by the stacked disk construction combined with the highly efficient membrane filtration give the MTS its very impressive dirt retention characteristics. The MTS can hold up to four filter elements and can be supplied as a stand-alone filter or with a pump and motor.

Features

- Effectively cleans hydraulic and cleaning fluids, lubricating oils, and coolants
- Provides excellent dirt removal efficiency, even in single pass filtration
- Available with pump and motor or can be utilized as an individual filter
- Included framework makes unit ready to install
- Easy to retrofit existing system
- Test points provided on all models
- Housing drain standard on all units

Applications

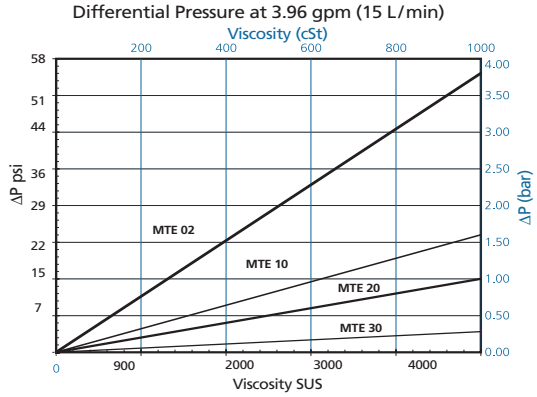
- Off-line filtration for hydraulic systems and test stands
- Bypass filtration
- Flushing and filling applications
- In-line auxiliary filtration

Membrane Technology Systems

Specifications

	MTS-1	MTS-2	MTS-3	MTS-4
Number of Elements:	1	2	3	4
Contamination Retention Capacity:	1.1 lbs (500 g)	2.2 lbs (1000 g)	3.3 lbs (1500 g)	4.4 lbs (2000 g)
Filter Efficiency:	$\beta_X > 1000$	$\beta_X > 1000$	$\beta_X > 1000$	$\beta_X > 1000$
Permissible Δp Across the Element:	72.5 psi (5.0 bar)	72.5 psi (5.0 bar)	72.5 psi (5.0 bar)	72.5 psi (5.0 bar)
Weight Element:	6.6 lbs (2.99 kg)	13.2 lbs(5.99 kg)	19.8 lbs (8.98 kg)	26.4 lbs (11.97 kg)
Material of Filter Housing:	Stainless Steel	Stainless Steel	Stainless Steel	Stainless Steel
Capacity of Pressure Vessel:	5.25 gal (19.87 L)	10.50 gal (39.75 L)	15.75 gal (59.62 L)	20.5 gal (77.60 L)
Max Operating Pressure Filter Housing:	87 psi (6.0 bar)	87 psi (6.0 bar)	87 psi (6.0 bar)	87 psi (6.0 bar)
Material of Seals-Housing (standard):	Buna N	Buna N	Buna N	Buna N
Weight Housing:	25 lbs (11.34 kg)	33 lbs (14.97 kg)	53 lbs (24.04 kg)	62 lbs (28.12 kg)
Fluid Temperature:	15° to 175°F (-9.44° to 79.44°C)	15° to 175°F (-9.44° to 79.44°C)	15° to 175°F (-9.44° to 79.44°C)	15° to 175°F (-9.44° to 79.44°C)
Technical Details for Motor-Pumps Units:	5 gpm (18.93 L/min)	10 gpm (37.85 L/min)	15 gpm (56.78 L/min)	20 gpm (75.71 L/min)
Operating Pressure of the Pump:	65 psi (4.48 bar)	65 psi (4.48 bar)	65 psi (4.48 bar)	65 psi (4.48 bar)
Viscosity Range with Vane Pump (SUS):	75 to 2500	75 to 2500	75 to 2500	75 to 2500
Motor Capacity (watts) Vane Pump:	370 W	570 W	1500 W	1500W
Weight Vane Pump:	17 lbs (7.71 kg)	30 lbs (13.61 kg)	43 lbs (19.50 kg)	43 lbs (19.50 kg)
Material of Seals in Pumps (standard):	Buna N	Buna N	Buna N	Buna N
Vane Pump Connectors :	Model			
	MTS-1	1 1/16 -12UN (SAE 12)		
	MTS-2, 3, and 4	1 5/8 -12UN (SAE 20)		

Element Pressure Drop



Element Selection and Replacement Elements

Replacement Elements

MTE02 = 2 micron
MTE10 = 10 micron
MTE20 = 20 micron
MTE30 = 30 micron

Model	No. of Elements	Flow gpm (L/min)
MTS	1, 2, 3, 4	5 (19)
MTS	2, 3, 4	10 (38)
MTS	3, 4	15 (57)
MTS	4	20 (8)

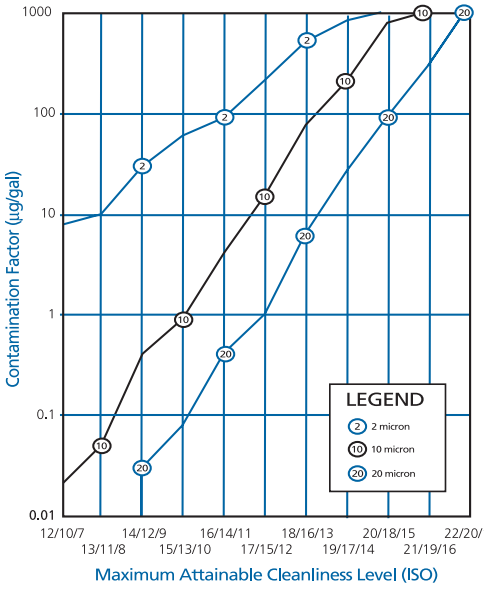
MTS *continued*

Sizing Off-line Filtration

The following calculations will help to approximate the attainable system cleanliness level when applying off-line filtration.

Step 1: Select the approximate contamination ingression rate from the chart. Quantitative investigations have yielded the following approximate figures.

Type of System	Contamination Ingression (µg/gal) Surroundings		
	Clean	Normal	Polluted
Closed circuit	1	3	5
Injection molding machine	3	6	9
Standard hydraulic system	6	9	12
Lubrication system	8	11	14
Mobile equipment	10	13	16
Heavy industrial press	14	18	22
Flushing test equipment	42	60	78



Step 2: Make the correction required for off-line filtration.
The contamination input selected above must be multiplied by the factor:
Main System Flow Rate / Desired Off-line Flow Rate

Note: Main system flow rate must be corrected for cycle time. For example, if the flow rate is 500 gpm, but only runs for 20% of the system cycle, the main system flow rate would be 100 gpm. (500 gpm X 20%)

This yields the expression:

$$\text{Contamination Factor} = \text{Contamination Input (µg/gal)} \times \frac{\text{Main System Flow Rate (gpm)}}{\text{Desired Off-line Flow Rate (gpm)}}$$

Calculate the contamination factor using this expression.

Step 3: Determine the attainable cleanliness level. Locate the calculated contamination factor on the y-axis of the attached graph. Go to the right to find the intersection point on the curve corresponding to the desired absolute filter micron rating. Read the resulting attainable cleanliness level on the x-axis. (In case of dynamic flow through the off-line filter, the attainable cleanliness level will be 2 to 3 times worse than indicated by the graph.)

Off-line Filtration Sizing Example

Type of System: Heavy industrial press

Surroundings: Normal

Main System Flow Rate: 150 gpm

Desired Off-line Flow Rate: 16 gpm (MTS-4)

Step 1: Using this criterion select the approximate contamination ingression rate from the chart above. This yields a contamination input of 18 µg/gal based on a heavy industrial press with normal surroundings.

Step 2: Make the correction required for off-line filtration.
Contamination Factor = 18 µg/gal x 150 gpm / 20 gpm = 135

Step 3: Determine the approximate attainable cleanliness level for each micron rating using the attached graph. If the attainable cleanliness level is not acceptable, the desired off-line flow rate should be increased. The approximate attainable levels for this example are as follows.
2 µm - ISO 17/15/12

20 µm - Between ISO 20/18/15 and ISO 21/19/16

Membrane Technology Systems

Model Selection Number

How to Build a Valid Model Number for a Schroeder Vacuum Dehydrator:

BOX 1	BOX 2	BOX 3	BOX 4	BOX 5	BOX 6	BOX 7	BOX 8
MTS –	–	–	–	–	–	–	

Example: *NOTE: One option per box*

BOX 1	BOX 2	BOX 3	BOX 4	BOX 5	BOX 6	BOX 7	BOX 8
MTS –	2 –	3 –	V –	3 –	10 –	I –	S

BOX 1

Membrane Technology System
MTS

BOX 2

Number of Elements
1
2
3
4

BOX 3

Pump Flow Rate* (must be ≤ No. of Elements)
1 = 5 gpm
2 = 10 gpm
3 = 15 gpm
4 = 20 gpm
X = no pump

BOX 4

Type of Pump
V = Vane
X = No Pump
G = Gear Pump

BOX 5

Motor
1 = 115 VAC
3 = 230/460 VAC 3 PH
5 = 575 VAC 3 PH**
X = No Motor***

BOX 6

Absolute Rating of Element Media
02 = 2 micron
10 = 10 micron
20 = 20 micron
30 = 30 micron

BOX 7

Dirt Alarm
I = Integrated Pressure Gauge
E = Electrical Diff. Pressure Gauge

BOX 8

Options (may specify more than one)
S = SAE Adapters (BSPP connections are standard)
V = Viton Seals

Preferred order codes designate shorter lead times and faster delivery.

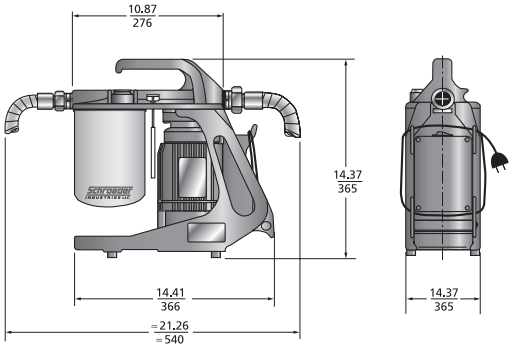
*See Element Selection Chart on page 83 for correlation between number of elements and flow. Other pumps available upon request.

**575 will be built to CSA standard.

***Motor is not included if pump is not specified.

Handy Filter Systems

HFS



Metric dimensions in ( ).

Description

As the name implies, the HFS is a hand-held filtration unit that utilizes convenient Schroeder M-size spin-on elements. It is powered by an electrical motor that drives a low noise vane pump. All components are securely fixed to an aluminum framework with integral feet for stable placement. The HFS is ideal for maintaining off-highway vehicles and a wide variety of industrial equipment.

Features

- Spin-on elements make element changeouts quick and easy and limit oil spillage
- All units equipped with a clogging indicator
- Suction line incorporates a wire mesh strainer to protect the pump
- Relief valve provided in housing
- Convenient carrying handle provided in framework
- Inlet and outlet wands provided

Applications

- Transfer and filter hydraulic fluids
- Remove water from hydraulic fluids
- Provide auxiliary filtration on demand

Specifications

Recommended Fluid:	Petroleum based oils. Contact Schroeder for other applications.
Nominal Flow:	4 gpm (15 L/min)
Maximum Oil Temperature:	180°F (80°C)
Viscosity Range:	40 to 2300 SUS
Maximum Operating Pressure:	50 psi (3.5 bar)
Seal Material:	Buna N
Weight:	27.5 lb (12.5 kg)
Electrical Motor:	110 VAC (0.25 hp / 0.18 kw) or 24 VDC (0.27 hp / 0.20 kw)

Element Performance Information

7" Element	Absolute Rating Per ISO 4572 / NFPA T3.10.8.8 Using automated particle counter (APC) calibrated per ISO 4402 $\beta_x \geq 75$	$\beta_x \geq 100$	$\beta_x \geq 200$	Abs. Rating wrt ISO 16889 Using APC calibrated per ISO 11171 $\beta_{x(c)} \geq 200$	$\beta_{x(c)} \geq 1000$	Dirt Holding Capacity gm
M3	6.8	7.5	10.0	N/A	N/A	50
M10	15.5	16.2	18.0	N/A	N/A	37
MZ3	<1.0	<1.0	<2.0	4.7	5.8	105
MZ10	7.4	8.2	10.0	10.0	12.7	104

Model Number Selection

Preferred order codes designate shorter lead times and faster delivery.

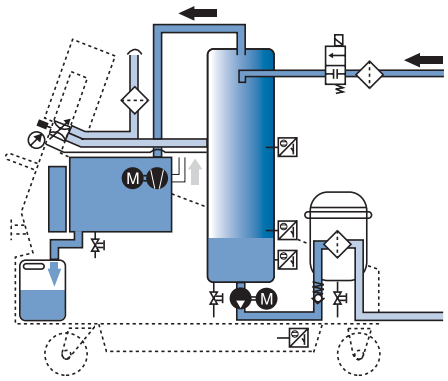
How to Build a Valid Model Number for a Schroeder Handy Filter System: *NOTE: One option per box*

BOX 1		BOX 2		BOX 3
HFS	–	A	–	M10

BOX 1	BOX 2	BOX 3
Model	Motor*	Element
HFS	A = 110 VAC	M3
	B = 24 VDC	M10
		MZ3
		MZ10
		MW

*24 VDC and pneumatic options available. Contact factory.

Vacuum Dehydrator



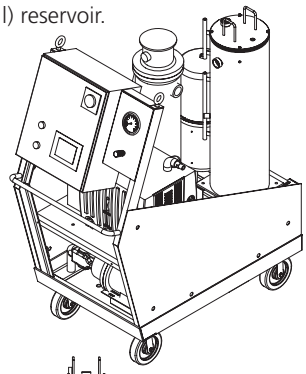
SVD

Description

Centrifuge and condensation methods typically only remove free water. The SVD, which uses mass transfer, can remove both free and dissolved water from the oil, as well as dissolved gases. In addition, solid contaminants are also removed by highly efficient membrane elements. The SVD is intended to be used on large hydraulic and lubricating circuits that have a minimal 200 gallon (760 l) reservoir. Unit automatically shuts down when desired % saturation is reached.

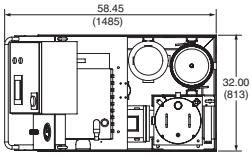
Negative effects of water in hydraulic oil:

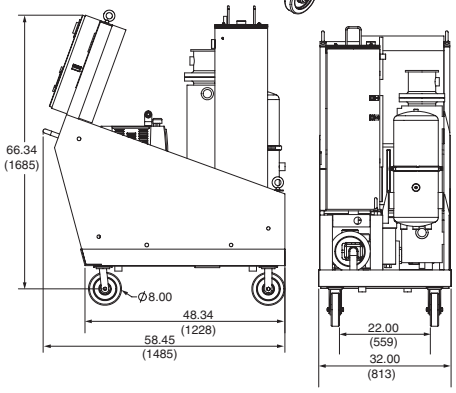
- Depletion of additives
- Reduction in lubricity
- Increased acidity of oil
- Accelerated aging of components



Principle of Operation

When connected to the hydraulic reservoir of a system with wet oil, the SVD unit draws the oil in its chamber. Oil slowly cascades down in the reactor chamber. Water is separated in the form of vapor and is removed by the vacuum pump. This vapor can be released to atmosphere or condensed into a separate reservoir. The purified oil is drained from the reactor chamber through a pump back to system reservoir at a continuous flow rate. This oil is now dry and free of water (within the specifications provided).





Metric dimensions in ( ).

Element Pressure Drop

- TWS-C standard on all units
- Removes 100% of free and over 90% of dissolved water and as well as 100% of free and over 90% of dissolved gases
- Automatic mode with automatic shutdown based on user settings
- Four models are available to accommodate various flow rates
- Use of a vacuum pump avoids any dangerous chemically reactive by-products
- Maintenance, operating, troubleshooting instructions are in HMI (touch screen)

Applications

- Mobile equipment/equipment used outdoors
- Pulp and paper plants
- Power generation plants
- Plastic injection and die cast machines
- Reclaimed fluids

Vacuum Dehydrator

SVD *continued*

Sizing

Sizing Chart
(continuous water ingression)

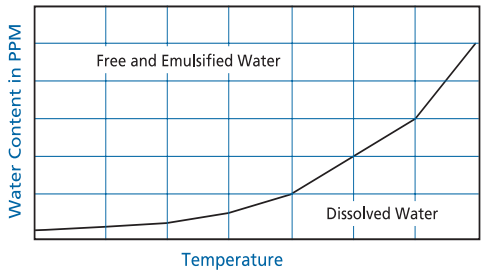
Tank Volume (gallons)	SVD Model
1000 to 2000	SVD05
2000 to 4000	SVD10
4000 to 7000	SVD16
7000 and up	SVD23

Sizing of the SVD is normally done through periodic measuring of the water content which will determine the hourly ingestion of water. The typical dewatering speed of the SVD is listed in the technical data table above. If there is a continuous ingression of water (i.e. condensation) the recommended flow rate of the SVD can be determined by the the system size (total gallons.) It should circulate 3 or 4 times through the SVD every day.

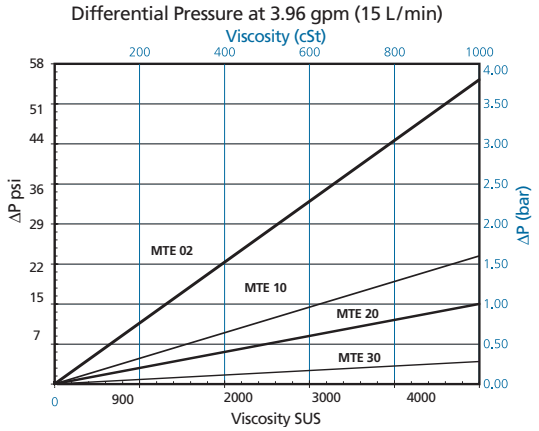
Factors That Affect Water Removal Rate

	Factor (increasing/decreasing)	Dewatering Speed
Water Content	↑	↑
Fluid Temperature	↑	↑
Detergent Additives		↓
Absolute Pressure in Vacuum Chamber	↓	↑
Humidity	↓	↑
Flow Rate	↑	↑
Ester Oils		↘

Hydraulic Oil Saturation Curve



Element Pressure Drop



Vacuum Dehydrator

Specifications

	SVD05	SVD10	SVD16	SVD23
Capacity of Pressure Vessel:	5.25 gal (20 L)	10.5 gal (40 L)	20.5 gal (78 L)	26.25 gal (100 L)
Solid Contamination to ISO 4572:	1.1 lbs (500 g)	2.2 lbs (1000 g)	3.3 lbs (1500 g)	5.5 lbs (2500 g)
Bypass Cracking Pressure:	29 psi (2 bar)	29 psi (2 bar)	29 psi (2 bar)	29 psi (2 bar)
Pump Type:	Gear pump	Gear pump	Gear pump	Gear pump
Flow Rate:	5 gpm (18.93 L/min)	10 gpm (37.85 L/min)	16 gpm (60.57 L/min)	23 gpm (87.06 L/min)
Maximum Operating Pressure:	87 psi (4.5 bar)	87 psi (4.5 bar)	87 psi (4.5 bar)	87 psi (4.5 bar)
Visc. Range without Heater SUS: (cSt):	75-2500 (15-500)	75-2500 (15-500)	75-2500 (15-500)	75-2500 (15-500)
Visc. Range with Heater SUS:	5000	5000	5000	5000
Electrical Cable Length:	25 ft (7.6 m)	25 ft (7.6 m)	25 ft (7.6 m)	25 ft (7.6 m)
Seal Material:	NBR	NBR	NBR	NBR
Weight with Heater:	1300 lbs (585 kg)	1350 lbs (608 kg)	Contact factory	Contact factory
Weight without Heater:	1105 lbs (497 kg)*	1170 lbs (527 kg)*	Contact factory	Contact factory
Fluid Temperature:	50°F to 175°F (10°C to 79°C)	50°F to 175°F (10°C to 79°C)	50°F to 175°F (10°C to 79°C)	50°F to 175°F (10°C to 79°C)
Ambient Temperature:	5°F to 105°F (-15°C to 41°C)	5°F to 105°F (-15°C to 41°C)	5°F to 105°F (-15°C to 41°C)	5°F to 105°F (-15°C to 41°C)
Max Free Water Removal Rate* (gallons/hour):	0.75	1	1.5	2
Attainable Water Content:	<100 ppm	<100 ppm	<100 ppm	<100 ppm

*Estimated weight

Model Number Selection

How to Build a Valid Model Number for a Schroeder Vacuum Dehydrator:

BOX 1	BOX 2	BOX 3	BOX 4	BOX 5	BOX 6	BOX 7	BOX 8	BOX 9
SVD –	–	–	–	–	–	–	–	–

Example: *NOTE: One option per box*

BOX 1	BOX 2	BOX 3	BOX 4	BOX 5	BOX 6	BOX 7	BOX 8	BOX 9
SVD –	10 –	T –	S –	23 –	19X –	02 –	10 –	

BOX 1

Vacuum Dehydrator
SVD

BOX 2

Flow Rate
05 = 5 gpm
10 = 10 gpm
16 = 16 gpm
23 = 23 gpm

BOX 3

Fluid
H = Hydraulic and Synthetic Oil
T = Transformer Oil (requires heater)
B = Biodegradable Oil
F = Fire Resistant Oils (must identify fluid type with order)

BOX 4

Mobility
S = Stationary
M = Mobile

BOX 5

Voltage
23 = 230V/60 Hz/ 3 Phase
46 = 460V/60 Hz/ 3 Phase
57 = 575V*/ 60 Hz/ 3 Phase
XX = Other

BOX 6

Power
19X = 1900 watts
27X = 2700 watts
32X = 3200 watts
51X = 5100 watts
09H = 8650 watts with heater
19H = 19200 watts with heater
21H = 21200 watts with heater
26H = 26100 watts with heater

BOX 7

Number of Elements**
1
2
3
4

BOX 8

Media
02
10
20
30

BOX 9

Option
C = Automatic Cooling water fill (available for H and B fluids only)

Preferred order codes designate shorter lead times and faster delivery.

*575 will be built to CSA standards.
**See Element Selection Chart below for correlation between number of elements and flow.

Element Selection

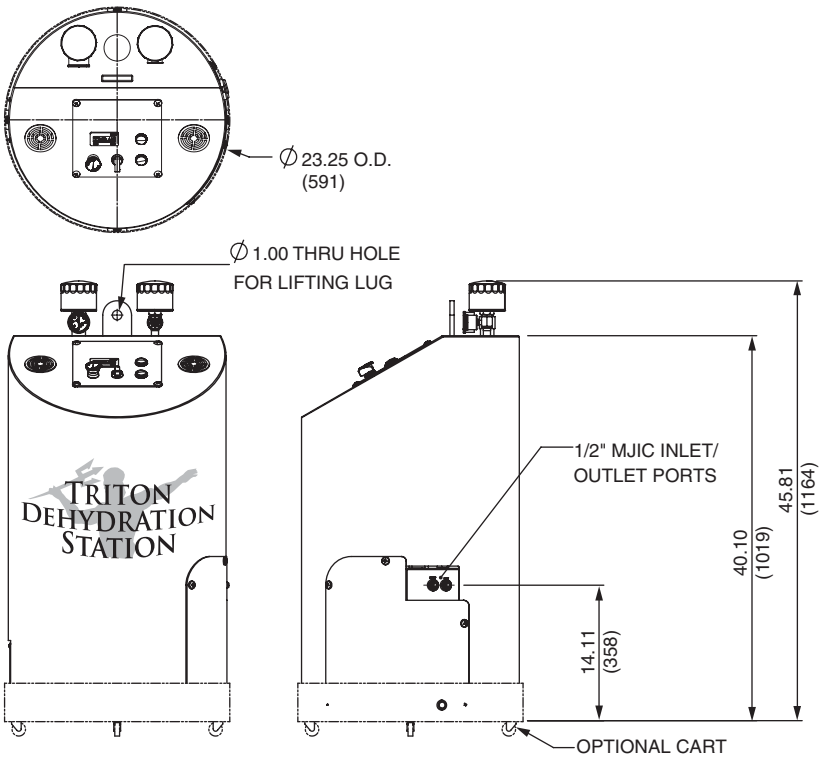
Model	No. of Elements	Flow gpm (L/min)	Model	No. of Elements	Flow gpm (L/min)
SVD05	1	5 (18.93)	SVD16	3	16 (56.78)
SVD10	2	10 (37.85)	SVD23	4	23 (75.71)

Triton Dehydration Station™

US Patent Pending

TDS

TRITON DEHYDRATION STATION



Metric dimensions in ( ).

Description

Water contamination in hydraulic systems can severely reduce the life of hydraulic systems and fluids. The Triton Dehydration Station is designed to eliminate 100% of free and up to 90% of dissolved water from small reservoirs, barrels, and gear boxes. Using a patent pending transfer process, the Triton Dehydration Station efficiently removes water and particulate contamination quickly in all environments. A proprietary design reduces aeration of free and entrained gases of returned fluid. The unit was designed to be extremely portable using either the central lifting point or the optional cart to access tight areas.

Principle of Operation

The Triton Dehydration Station uses a new mass transfer dewatering technology. Ambient air is conditioned to increase its water holding capability before injecting to the reaction chamber. Fluid is equally distributed and cascaded down through reticulated media and the conditioned air stream. Water is transformed to water vapor and is expelled from the unit as a moist air stream. The relative humidity of the incoming fluid is continually monitored by an integral TestMate Water Sensor (TWS) and displayed real-time on the control panel.

Features

- High Dewatering Rates and particulate removal in one system
- Simple Controls; RUN/DRAIN modes
- Reduce fluid recycling cost
- No expensive vacuum pump to service and replace
- Patent Pending mass transfer technology uses ambient air to optimize and control dewatering rates
- Compact, efficient footprint - same diameter as a 55 gallon drum
- Remove free and dissolved water
- Highly effective in low and high humidity elements

Triton Dehydration Station™

US Patent Pending

Specifications

Dimensions:	46"H x 23.25"OD
Dry Mass:	295 lbs (134 kg)
Inlet Connections:	1/2" MJIC
Outlet Connections:	1/2" MJIC
Flow Rate:	90 gallons/hour
Inlet Pressure:	Atmospheric
Outlet Pressure:	to 40 psi (2.76 bar)
Fluid Service Temperature:	50° F to 175°F (10°C to 79°C)
Fluid Viscosity:	1000 SUS
Power Supply:	110 VAC, 60 Hz, 12 AMP
Attainable Water Content:	< 50 PPM
Relative Humidity Display:	Standard, 0-99% Range
Construction:	Base Frame and Vessel: Stainless Steel Seals: Viton

Element Performance

Media	Filter Rating	DHC (gm)
Z1	ß $4.2_{(c)}$ ≥1000	55
Z3	ß $4.8_{(c)}$ ≥1000	57
Z5	ß $6.3_{(c)}$ ≥1000	62
Z10	ß $10_{(c)}$ ≥1000	52
Z25	ß $24_{(c)}$ ≥1000	48

Model Number Selection

How to Build a Valid Model Number for a Schroeder Triton Dehydration Station:

BOX 1	BOX 2	BOX 3	BOX 4	BOX 5	BOX 6	BOX 7	BOX 8
TDS							

Example: *NOTE: One option per box*

BOX 1	BOX 2	BOX 3	BOX 4	BOX 5	BOX 6	BOX 7	BOX 8
TDS	A	V	S	A	B	Z01	

BOX 1 – Dewatering Unit
TDS

BOX 2 – Flow Rate
A = 1.5 gpm Average

BOX 3 – Seals
Viton

BOX 4 – Mobility
S = Stationary
M = Caster Base

BOX 5 – Voltage
A = 110V/60 Hz/ 1 Phase

BOX 6 – Air Source
B = Integral Blower
C = Compressed Air (supplied)

BOX 7 – Media
Z01
Z03
Z05
Z10
Z25

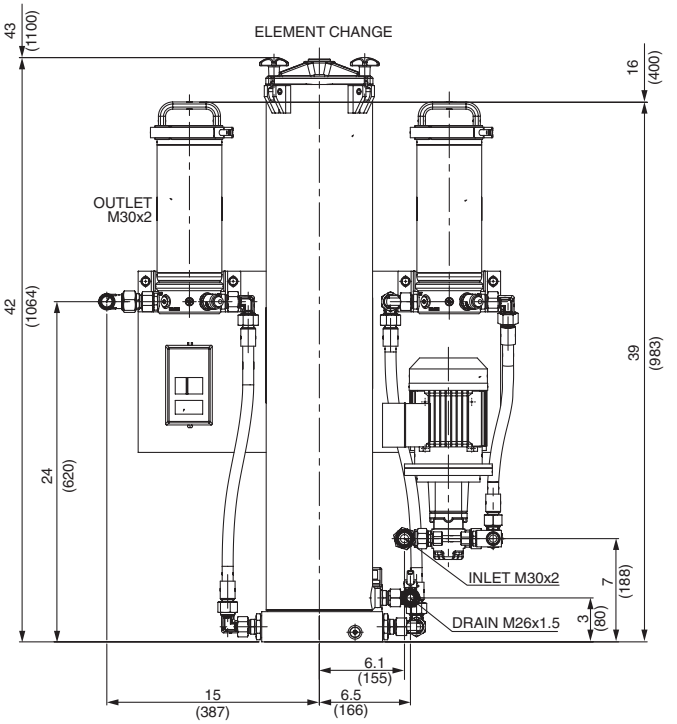
BOX 8 – Option
X = Class 1, Div 2 explosion-proof

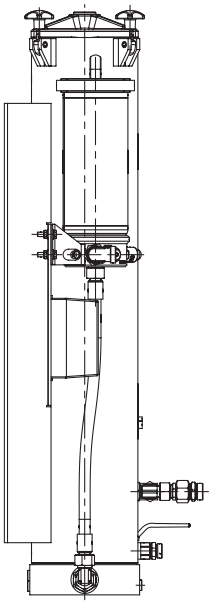
Replacement Elements

Replacement Element Part Number	Replacement Air Breather Elements
9VZ1V = 1µ Excellement® Z Media	ABF-S40
9VZ3V = 3µ Excellement® Z Media	ABF-S40
9VZ5V = 5µ Excellement® Z Media	ABF-S40
9VZ10V = 10µ Excellement® Z Media	ABF-S40
9VZ25V = 25µ Excellement® Z Media	ABF-S40

Ion eXchange Unit

IXU





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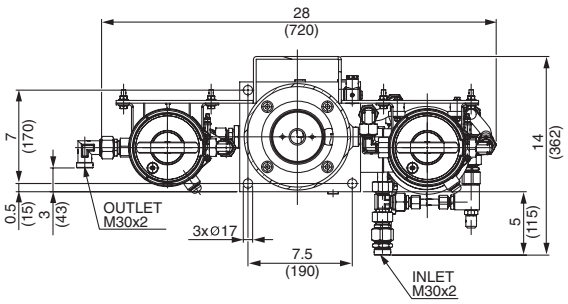

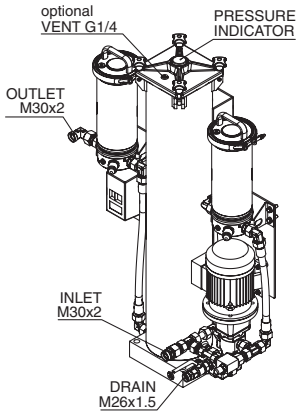

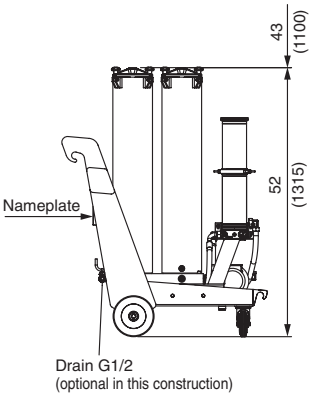

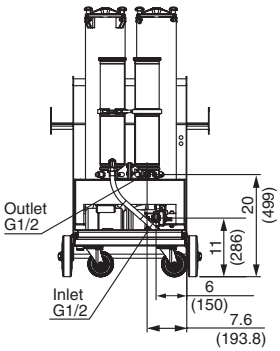

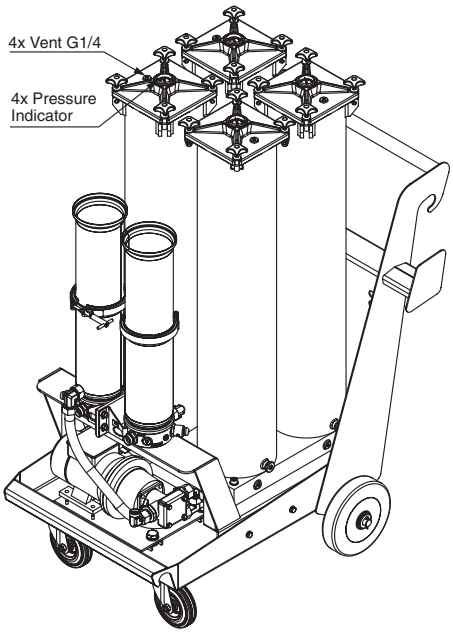

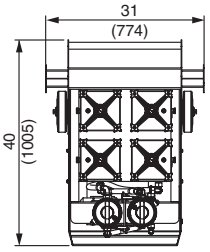

Ion eXchange Unit

Description

This easy to service ion exchange unit of the IXU series is used for conditioning flame resistant, HFD-R-based hydraulic and lubrication fluids. They effectively remove acidic products of decomposition caused by hydrolysis and/or oxidation of the fluid. The units are applied to hydraulic and lubrication oil tanks of up to 20,000 l with volumetric flow of up to approximately 2.4 gpm (9 l/min) in the bypass flow. Mobile or stationary IXU are available. The IXU uses Ion eXchange Element (IXE) filled with ion exchange resin from HYDAC.

Features

- Longer oil change intervals
- Increase in the lifetime of operating fluids and components
- Higher machine availablility
- Reduction in functional problems, e.g. with servo valves
- Easy to service unit through
  – Component replacement without tools
  – Filter elements can be removed with the cover pointing “upward”
- Ideal to combine with type FAM dewatering units
- Available to service as complete unit, modular system for retrofitting existing bypass circuits or for OEM

Applications

- Power plants
- Steel industry
- Other applications with ester-based, flame resistant fluids

Ion eXchange Unit

Specifications

Neutralization Number:	< 0.1 mg KOH/g possible
Flow Rating:	0.6 / 2.4 gpm (2.2 / 8.9 l/min)
Operating Pressure:	87 psi (6 bar) max.
Suction Pressure@Suction Inlet:	6 psi (0.4 bar) min. to 14.5 psi (1 bar) max.
Viscosity Range:	15-80 cSt
Compatibility:	HFD-R
Temperature Rating:	104°F (40°C) <80% = Relative humidity (non-condensing)
Elements:	3348961 / IXE 200
Seals:	Viton®
Protection Class:	IP55
Length of Electrical Cable:	394 in. (10 m)
Hose Connection:	1/2", 3/4", 1"
Connectors In/Out:	1/2"
Weight (empty):	IXU-1 198 lb. (90 kg) IXU-4 660 lb. (300 kg)
Power Input Motor:	0.25 - 0.5 kW
Sound Level at 1m:	<80 dB
Storage Temperature:	32-140°F (0-60°C)

Model Number Selection

How to Build a Valid Model Number for a Schroeder High Viscosity X Series Filter Skid:

BOX 1	BOX 2	BOX 3	BOX 4	BOX 5	BOX 6	BOX 7	BOX 8	BOX 9
IXU –	–	–	–	–	–	–	–	

Example: *NOTE: One option per box*

BOX 1	BOX 2	BOX 3	BOX 4	BOX 5	BOX 6	BOX 7	BOX 8	BOX 9
IXU –	1 –	M –	G –	M –	2 –	BM –	AS –	S5D5

BOX 1

Filtration Unit
IXU

BOX 2

Flow Rate
1 = 0.6 gpm (2.2 l/min)
4 = 2.4 gpm (8.9 l/min)

BOX 3

Transport
M = mobile
S = stationary

BOX 4

Pump
G = gear pump
Z = without

BOX 5

Connection Voltage
M = 230 V / 50 Hz (1 Ph + PE)
N = 400 V / 50 Hz (3 Ph + PE)
S = 500 V / 50 Hz (3 Ph + PE)
X = other voltage

BOX 6

Prefilter
1 = with prefilter
2 = without prefilter

BOX 7

Clogging Indicator
BM = differential pressure indicator – visual (VM2BM.1)
C = differential pressure indicator – electrical (VM2C.0)

BOX 8

Sensor
AS = Aquasensor
Z = without

BOX 9

Accessories	
S5D5 = suction/pressure hose with lance, 1 = 5 meter	FA1 = with on/off switch, overload protective motor switch and cut-out when filter clogged (requires neutral wire in power supply)
SKDK = suction/pressure hose with threaded connection, 1 = 5 meter	FA2 = with on/off switch, overload protective motor switch and cut-out when filter clogged (does not require neutral wire in power supply)
PKZ = with on/off switch and overload protective motor switch	

Replacement Element Part Numbers

IXE 200 is ion exchange element

Prefilter Elements

N5DM005 / 5µ	N5DM010 / 10µ

Note: Elements are <u>not</u> furnished with IXU assembly unit.

Ion Exchange elements and prefilter elements must be ordered separately.